OIPE #5

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109845-135

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Takashi Sera

Serial No.: 09/911,261

Filing Date: July 23, 2001

For: Zinc Finger Domain Recognition Code And Uses Thereof

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

I hereby certify that this correspondence is being transmitted by facsimile to Assistant Commissioner for Patents, Washington, D.C. 20231 on

Date: February 1, 2002 Reg. No. 34,045

Signature: M. Lisa Wilson

Commissioner for Patents
Washington D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Applicants respectfully request entry of the present Preliminary Amendment in the above-identified patent application.

IN THE SPECIFICATION:

At Page 15, please delete the paragraphs found at Lines 13-21.

REMARKS

The present amendment has been made to present the Specification in better form. Because this change represents a deletion of material, Applicants believe that a replacement page is not required. No new matter has been added.

Respectfully submitted,
Hale and Dorr, LLP

February 1, 2002

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and each endonuclease produces a unique pair of cleavable, anneable ends. Preferably the restriction endonuclease is BsaI and each use thereof produces a unique pair of cleavable, anneable ends. When step (c) is omitted, the nucleic acid encodes a zinc finger protein (ZFP) having four, five or six zinc finger domains, depending on the PCR amplification primers locations relative to the three domains. When the PCR amplification primers for the second nucleic acid are selected to amplify three zinc finger domains and one additional nucleic acid is prepared by step (c), then the nucleic acid encodes a zinc finger protein (ZFP) having seven, eight or nine zinc finger domains, depending on the location of PCR amplification primers in step (c) relative to the three domains of the additional nucleic acid of step(c).

The oligonucleotides used in these modular assembly methods can be provide optimal codon usage for a desired organism, such as a bacterium, a fungus, a yeast, an animal, an insect or a plant or any other organism described herein, whether transgenic or naturally occurring.

~~62. An expression vector comprising a nucleic acid prepared by the method of any one of Claims 40-61.~~

~~63. A host cell comprising the expression vector of Claim 62.~~

~~64. A method of preparing a zinc finger protein which comprises~~

~~(a) culturing the host cell of Claim 63 for a time and under conditions to express said ZFP; and~~

~~(b) recovering said ZFP.~~

In addition, the invention provides expression vectors comprising the nucleic acids prepared by the above modular assembly methods and host cells transformed (by any method) with the expression vectors. Among other uses, such host cells can be used in a method of preparing the encoded ZFPs by culturing the host cell for a time and under conditions to express the desired ZFPs protein; and recovering those ZFPs.

Yet a further aspect of the invention provides a set of oligonucleotides comprising a number of separate oligonucleotides, each oligonucleotide encoding one zinc finger domain and the set of oligonucleotides including at least one oligonucleotide for more than half of the possible four base pair target sequences (using one of the nucleotides G, A,T, and C at each of